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wise, the heights of the lamellae vary. Again, the lamellae of immature leaves differ from those of mature ones. The leaves and lamellae of new shoots differ from those of the old shoots when the amount of humidity or soil moisture is altered. This can easily be shown experimentally by transferring a plant from a moderately dry situation to a dish of water under a bell jar and later comparing the leaves of the new shoots with those of the old. The thickness of the outer wall of the end cell is also a variable quantity. In fact it is quite evident that certain external factors (climatic and edaphic as well as physiographic) play no small part in determining the form and structure of the lamellae, the leaves, and even the whole plant. The query suggests itself, "Are these factors alone wholly responsible for the existence of any of the varieties which have received distinctive names?" Here is a good field for experimentation.

Polytrichum formosum was reported from various New England states prior to 1885. Undoubtedly the bulk of the material so reported must be referred to *P. Ohioense* as has been repeatedly shown in various articles and catalogues since the date mentioned.

Polytrichum gracile was reported from Massachusetts and New Hampshire in 1847 by William Oakes (Hovey's Magazine, **13**: 174). Dr. A. J. Grout writes me that the only specimens of this species which he has were collected in Vermont, so the New Hampshire locality mentioned in RHODORA (1: 53) is undoubtedly an error. The Vermont plants were collected on both Willoughby Mt., and on Mt. Mansfield by Dr. G. G. Kennedy.

Polytrichum Jensenii is a plant which is known from Lapland, Finland, Spitzbergen, Greenland, Alaska, and the Yellowstone Park. The Maine plant which is here referred to this species grew amongst sphagnum in a bog at Presque Isle. It differs mainly from authentic material, kindly loaned by Mr. J. M. Holzinger, in having longer and somewhat flexuous stems, less rigid leaves, and thinner-walled marginal cells of lamellae.

Brown Univerity.

DIE EUROPAEISCHEN TORFMOOSE.

BY G. ROTH, VERLAG VON WILHELM ENGELMAN, LEIPZIG.

Herr G. Roth, whose exhaustive work on the European mosses was ably reviewed by Prof. Holzinger in the pages of THE BRYOLOGIST last year (Vol. viii, p. 113), has placed students of bryology under further obligations by the publication of his work on the European Sphagnaceae. This work consists of eighty pages of letter press with eight plates, uniform in size and method of reproduction with his "*Europaeische Laubmoose*," and it is published at the very moderate price of 3.20 marks.

After an introduction, giving a concise account of the intimate structure of these remarkable plants, Herr Roth, in the systematic portion of his work, follows very largely the lines taken by Dr. C. Warnstorf, familiar to many English students, in Mr. S. C. Horrell's "*European Sphagnaceae*," and lately further amplified by Dr. Warnstorf himself, in his "*Leber und Torfmoose der Mark Brandenburg.*"

The researches of M. Meylan, in the Jura, on the Sphagna of the *acutifolium* group (Rev. Bry., 1906, p. 17, et seq.) have, I think, thrown some doubt on the permanent validity of some of the species recently put forward in this group. Herr Roth, however, is fully aware of the unsatisfactory character of some of the species, since he draws attention to the fact that most of the species are connected by intermediate forms. Whatever view may ultimately be adopted in reference to the species within this group, students will be grateful to Herr Roth for bringing together and collating the views of various authors on the modern lines, where collation presents more than usual difficulty.

The plates give the general facies of the plant, with details of the leaves, cells and pore structure and add very materially to the usefulness of the work. A Key is given to the species of the *cymbifolium* group, but this system is not extended to the other groups, which, indeed, for the most part, do not readily lend themselves to this method of treatment. The descriptions of the species are carefully done and the whole distribution of the species is given, so far as it is known to the author, and, as in most cases, the species are common to Europe and North America, the book will be found useful by students on both sides of the Atlantic. Four new species are added to the list of the European Sphagna, bringing the total number up to fifty-three.

The new species are: *S. Schliephackei* (Röll), *S. pseudorecurvum* (Röll) and *S. pseudocuspidatum* Roth, of the *cuspidatum* group, and *S. pungens* Roth, of the *subsecundum* group. Moreover, *S. rufescens* Bry. Germ. is split up into two species: *S. rufescens* Bry. Germ. and *S. cornutum*, Roth; the latter characterized by numerous ringed commissural pores, like strings of pearls, both on the inner and outer surfaces of the leaves.

Purists in the matter of language will be glad to find that the somewhat mongrel name, "*crassicladum*," has given way to the older name *turgidum* C. M., while many will be pleased to find that the familiar *S. laricinum* Spruce, has been re-instated.

In conclusion the author explains a simple method of staining by the use of Methyl violet, which acts very rapidly and enables the more intimate structure and position of the spores to be readily observed.

WM. EDW. NICHOLSON,
Lewes, August, 1906.

SULLIVANT MOSS CHAPTER NOTES.

I shall be very grateful if members of the Chapter will send me complete data of all the New England specimens of *Ramalinas* in their Herbariums with extreme measurements of thallus, width and length of each species or form and if possible with remarks on distribution and characteristic growth, substratum, etc. in their particular region. Proper acknowledgment will be made for all such aid which is asked for by Dec. 15, 1906.

Address MR. REGINALD HEBER HOWE, JR.
Middlesex School, Concord, Mass.

Lichenology for Beginners (Sargent). A. M. S.............. 17
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ERRATA.

Page 6, line 24, for 5–5 read 3–5.
Page 6, line 34, for Lindb. read Kindb.
Page 8, line 12, for SUBASPARRIMUM read SUBASPERRIMUM.
Page 21, line 1, for **8**: 3, 1905, read **8**: 37, 1905.
Page 26, line 9 from below, for *Spagna* read *Sphagni.*
Page 30, line 18, for *leucopheae* read *leucophaea.*
Page 32, lines 19 and 22, for *Selwini* read *Selwyni.*
Page 41, line 31, for Bottiaceae read Pottiaceae.
Page 42, line 9, for 1894 read 1904.
Page 42, line 13, for A. J. G., type read A. J, G.; and type.
Page 44, line 13, for *Tyloriae* read *Tayloriae.*
Page 45, line 22, for 41 read 141.
Page 49, line 6, for *furfuraceae* read *furfuracea.*
Page 51, line 7, for AUEANTIACUM read AURANTIACUM.
Page 58, line 39, for contex read cortex.
Page 58, line 45, for Asi read Asci.
Page 61, line 8, for 1 6 read 1:6.
Page 63, line 17. for *Lapidozia* read *Lepidozia.*
Page 64, line 4, for *accuminatum* read *acuminatum.*
Page 64, line 25, for *flagallare* read *flagellare.*
Page 64, line 32, for *scoparoides* read *scoparioides.*
Page 65, line 33, for *urnigarum* read *urnigerum.*
Page 65, line 38, for *piliforum* read *piliferum.*
Page 65, line 40, for *recurvens* read *recurvans.*
Page 66, line 7, for *quinquefarinum* read *quinquefarium.* Also same error page 72, line 25.
Page 72, line 32, insert are, before several.
Page 77, line 5, for *setacca* read *setacea.*
Page 80, line 21, for John F. Leiberg read John B. Leiberg.
Page 81. line 31, for *Physia* read *Physcia.*
Pages 84–86 for Li. Um. read Li. Un., *passim.*
Page 84, line 22, for margin read margine.
Page 86, line 25, for Luec. read Suec.
Page 86, line 33, for Scharer's read Schaerer's.
Page 86. line 35, for *valleus* read *velleus.*
Page 86, line 37, for U. vellea read *U. vellea.*
Page 91, last line, for page 60 read page 80.
Page 92, line 14, for Splachnae read Splachneae.
Page 102, line 3 from below, for S. C. Horrell read C. S. Horrell.
Page 103, line 12 from below, for spores read pores.